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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,105	10/09/2003	Lars Gustaf Liljeryd		8127

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EXAMINER	
ALBERTALLI, BRIAN LOUIS	
ART UNIT	**PAPER NUMBER**
2626	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/681,105	LILJERYD ET AL.	
	Examiner	**Art Unit**	
	Brian L. Albertalli	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6,9,11 and 13* is/are rejected.

7)☒ Claim(s) *7,8,10 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 6, 9, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubin et al. (*Time-Scale Modification of Speech Based on a Nonlinear Oscillator Model*), in view of Laroche (U.S. Patent 6,049,766).

In regard to claims 6 and 13, the recitation "at least one frequency band is discarded" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Kubin et al. disclose a method/apparatus for transposition wherein a first signal is either expanded in time by duplicating segments of the first signal and down-sampling, or is compressed in time by discarding segments of the first signal and up-sampling (time-scale modification) , comprising:

determining a codebook based on which a signal of the first signal is used when duplicating or discarding parts of the first signal to obtain an output segment (a original waveform is used to build a state transition codebook, page 455, section 3, lines 5-8);

searching for a synchronization point in a codebook as determined in the step of determining by correlating a comparation segment of a previous output segment with the codebook as determined in the step of determining (a jump to a new time location, page 455, section 3.1, lines 1-9); and

generating a current output segment by using samples from the codebook for the current input segment starting from the synchronization point obtained in the step of searching, wherein a transposition factor is determined by a length of the current input segment and a length of the current output segment (the oscillator is run with the sequence of codebooks, with R the desired time-scaling factor, page 455, section 3, lines 5-18).

Kubin et al. further suggest that incorporating transient detection to the above method would be advantageous (page 455, section 3.1, last 3 lines and section 3.4, 1st paragraph).

Kubin et al. do not disclose :

performing transient detection on a portion of the first signal, the portion including an input segment;

wherein the step of determining includes the following steps:

when a transient in a current portion of the input signal is not detected or a transient in an earlier portion of the input signal is not yet processed, determining the codebook such that an end of the codebook is (with respect to time) to the left of a current input of the first signal; and

when a transient in a portion of the input signal is detected and when the detected transient in the input signal is already processed, determining the codebook such that the codebook (with respect to time) extends from the right of a current input segment of the first signal so that a search for a synchronization point in the determined codebook prior to the transient is not allowed.

Laroche discloses a method for time scaling a signal by discarding or repeating segments of a signal, comprising;

performing transient detection on a portion of the first signal, the portion including an input segment (Fig. 5, step 502, column 5, lines 9-18);

when a transient in a current portion of the input signal is not detected or a transient in an earlier portion of the input signal is not yet processed, determining the codebook such that an end of the codebook is (with respect to time) to the left of a current input of the first signal (a current buffer is analyzed to find a repeatable segment of an input signal, column 5, lines 4-8; if the analyzed segment does not contain a transient, the segment is used for repeating, step 506, beginning before the end of the current buffer, i.e. "to the left" of the current input of the first signal, column 5, lines 23-32 and lines 36-42); and

when a transient in a portion of the input signal is detected and when the detected transient in the input signal is already processed, determining the codebook such that the codebook (with respect to time) extends from the right of a current input segment of the first signal so that a search for a synchronization point in the determined codebook prior to the transient is not allowed (when a transient is detected in the current buffer, the method iterates to the next buffer, step 510, i.e. "to the right" of a current input segment, column 5, lines 42-47; in order to avoid repeating transients, column 4, lines 50-54).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kubin et al. to detect transients and, if a transient were not detected in an input signal, determine a codebook to the left of an input segment; and if a transient were detected, determine a codebook to the right of an input segment, because ensuring transients are not repeated significantly reduces conspicuous artifacts in the output signal, as taught by Laroche (column 2, lines 1-10).

In regard to claim 9, Kubin et al. disclose the codebook is determined such that an end of the codebook coincides with a start of the current input segment, when a transient in a current portion of the signal is not detected or a transient detected in an earlier portion of the input signal is not yet processed (the default codebook disclosed by Kubin et al. is determined such that the last codebook sample is the immediately following input signal sample, page 454, 2nd column, lines 3-14).

In regard to claim 11, Kubin et al. do not disclose the length of the portion of the input signal used for transient detection is equal to the length of the input segment.

Laroche discloses disclose the length of the portion of the input signal used for transient detection is equal to the length of the output segment (a segment is analyzed for transients, column 4, lines 55-65; and the same sized segments are either discarded or repeated at the output, column 5, lines 23-32).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kubin et al. so that the length of the portion of the input signal used for transient detection were equal to the length of the output segment, because this would ensure transients were not repeated in the output.

Allowable Subject Matter

3. Claims 7, 8, 10, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In regard to claim 7, Kubin et al. and Laroche do not provide any teaching or suggestion to share synchronization point information between several transposers.

Claim 8 further limits claim 7, and thus would also be allowable.

In regard to claim 10, while Laroche provides a suggestion that when transient is detected, the codebook should extend to the right of a current signal segment, neither Kubin et al. nor Laroche disclose or suggest the specific condition that the end of the codebook coincides with an end of the current input segment and a start of the codebook coincides with a start of the previous input segment.

In regard to claim 12, Kubin et al. and Laroche et al. do not provide any teaching or suggestion of searching a previous search for a synchronization point for use in a current search.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kleijn (U.S. Patent 5,717,823) discloses a speech rate modification method with filtering to increase short term correlation. Taniguchi et al. (U.S. Patent 6,484,137) disclose a frame based time scale modification process. Kondo (U.S. Patent 6,232,540) discloses a time scale modification process with transient detection. Anderson et al. (U.S. Patent 5,388,181) disclose a transposition process.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Albertalli whose telephone number is (571) 272-7616. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30 PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BLA 12/20/06

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